UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,073	01/16/2004	Jong Cheol Choi	1630-0503PUS1	5287

2292   7590   05/15/2009
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER
SELLERS, DANIEL R

ART UNIT	PAPER NUMBER
2614	

NOTIFICATION DATE	DELIVERY MODE
05/15/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

	Application No.	Applicant(s)
	10/758,073	CHOI, JONG CHEOL
Office Action Summary	Examiner	Art Unit	
	DANIEL R. SELLERS	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 April 2009</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,5-8,10-12,16-19,21 and 22</u> is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,5-8,10-12,16-19,21 and 22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>16 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☒ All b)☐ Some * c)☐ None of:

    1.☒ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments, see pp. 6-7, filed 4/23/2009, with respect to claims 1, 5-8, 10-12, 16-19, and 21-23 have been fully considered and are persuasive. The rejections of claims 1, 5-8, 10-12, 16-19, and 21-23 have been withdrawn.

2.   The examiner agrees that RG teaches a gain correction factor in metadata associated with the audio file, and does not appear to teach the application of the gain correction factor until after the audio is recorded elsewhere (i.e. to a hard drive or other storage device). A further search of the prior art has been conducted and new rejections are given below.

Claim Rejections - 35 USC § 103

3.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4.   **Claims 1, 5-8, 10-12, 16-19, 21 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Replay Gain (previously cited) in view of Takahiro, JP 02-089252, and MP3 CD Maker,

http://web.archive.org/web/20011102102749/www.share2.com/mp3cdmaker/faqs.htm

(hereinafter RG, Takahiro, and MP3 CD Maker, respectively).

5.   Regarding **claim 1**, RG teaches a method for controlling an audio recording level, comprising the steps of:

a) *detecting audio data and determining an audio level average of the audio data* (see RG's Calculation page, "2. RMS Energy Calculation",

(http://web.archive.org/web/20010827010748/privatewww.essex.ac.uk/~djmrob/replaygain/calculating_rg.
html), archived on 08/27/2001, and hereinafter calculation page); *and*
        b) *variably controlling an audio level of a song to be recorded later on the basis of the audio level average* (see RG's Outline page, Basic Steps, #4,
(http://web.archive.org/web/20010827022814/privatewww.essex.ac.uk/~djmrob/replaygain/outline.html),
archived on 08/27/2001, and hereinafter outline page),
        wherein the step b) comprises:
        calculating an offset value between the detected audio level average and an audio level average of a previously recorded song;
        adjusting an audio level of a subsequent song unit on the basis of the offset value (see calculation page, "4. Calibration with reference level"); *and*
        encoding and recording the subsequent song unit having the adjusted audio level (see calculation page, "4. Calibration with reference level", wherein the difference is "store[d]... in the audio file"), *and*
        wherein the step (a) determines the audio level average of the decoded data by excluding certain parts of the decoded data having an audio level outside of a prescribed range extending from a maximum audio reference level to a minimum audio reference level. (see calculation page, "3. Statistical Processing")

The introduction page, "Replay Gain - A Proposed Standard",

(http://web.archive.org/web/20011005165428/privatewww.essex.ac.uk/~djmrob/replayg

ain/index.html) (archived on 10/05/2001 and hereinafter introduction page) links to the

contents page by the "Read on to find out more" link,

(http://web.archive.org/web/20011031173847/privatewww.essex.ac.uk/~djmrob/replayg

ain/contents.html) (archived on 10/31/2001 and hereinafter contents page). The

calculation page is linked to "6. Calculating the replay gain" on the contents page, and

the outline page is linked to "4. Outline of the Replay Gain Proposal" on the contents

page. RG teaches calculating an offset value between the detected audio level average

and an audio level average of a previously recorded file (RG's Calibration page, p. 2,

"Implementation",

(http://web.archive.org/web/20020106152700/http://privatewww.essex.ac.uk/~djmrob/replaygain/calibratio

n.html), archived on 01/06/2002, and hereinafter "calibration page"). On the calibration

page, RG teaches a pink noise audio file to create a reference audio level average, to which every subsequent song is compared (i.e. the replay gain is the difference between the average level of the pink noise file and the current song's detected audio level average). RG also teaches adjusting the audio level based on the offset value (see calculation page, "4. Calibration with reference level"). RG, on the calculation page, teaches determining the audio level average (RMS), wherein it excludes audio levels outside a prescribed range by virtue of choosing the RMS value 5% down from the top of the sorted list. However, RG does not appear to teach a previously recorded song as currently understood.

Takahiro teaches an automatic volume adjusting device, wherein a current song is adjusted according to a peak volume of a previously recorded song (abstract). It is obvious to substitute the reference pink noise track with a previously recorded song, wherein RG provides source code to modify (see calibration page, p. 2, "Implementation", wherein "ref_pink.wav" can be replaced by the teachings of Takahiro). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of RG and Takahiro for the purpose of adjusting the volume to a user's preferred volume level, wherein the preferred volume level would be the level at which the user set the system during the first played song. However, the combination of RG and Takahiro does not appear to teach recording the subsequent song unit having the adjusted audio level.

MP3 CD Maker teaches a program for writing MP3 or WAV songs to a writable compact disc. Specifically, MP3 CD Maker teaches a method of making a CD with

normalized volumes, so that the songs are perceived to be played at the same volume (see MP3 CD Maker FAQ, p. 2, "What makes "Normalizing" the volume levels so cool?"). MP3 CD maker does not disclose the method of normalizing, but it would have been obvious to substitute the method taught by RG shown above. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of RG, Takahiro, and MP3 CD Maker to provide the user with a better audio experience. It would have been obvious for one of ordinary skill in the art at the time of the invention that a better experience would be obtained by adjusting the volumes before writing to a compact disc, so that a user can use any prior art CD player and amplifier to hear the "normalized" audio.

6.   Regarding **claim 5**, see the preceding argument with respect to claim 1, the combination teaches a method as set forth in claim 1, further comprising

simultaneously recording the audio data to a recording medium, and (c) recording the variably controlled audio level of the song to the recording medium (see MP3 CD Maker FAQ, p. 2, "What makes "Normalizing" the volume levels so cool?").

7.   Regarding **claim 6**, see the preceding argument with respect to claim 5, the combination teaches a method as set forth in claim 5, wherein

the recording medium is one of the following:
an optical disk (see MP3 CD Maker FAQ, p. 2, "What makes "Normalizing" the volume levels so cool?"),
a HDD (hard disk driver),
a DRAM (dynamic random access memory), and
a flash memory.

The MP3 files are stored on a CD after adjusting the perceived volume.

8.   Regarding **claim 7**, see the preceding argument with respect to claim 1. The

combination teaches a method for controlling an audio recording level, comprising the

steps of:

> *a) decoding entry audio data to be recorded in song units, and determining an audio, level average of the decoded entry audio data* (see calculation page and see RG 's File Format page, "Where to store them?", (http://web.archive.org/web/20010827020146/privatewww.essex.ac.uk/~djmrob/replaygain/file_format.html), archived on 08/27/2001, and hereinafter file format page); *and*
> *b) variably controlling a level of subsequent decoded audio data on the basis of the determined audio level average* (see RG 's Player Requirements page, "1. Scale audio to match Replay Gain", (http://web.archive.org/web/20010827024445/privatewww.essex.ac.uk/~djmrob/replaygain/player.html), archived on 08/27/2001, and hereinafter player requirements page),
>> *wherein the step b) includes the steps of:*
>> *calculating an offset value between the detected audio level average and an audio level average of a previously recorded song* (see Takahiro, abstract);
>> *adjusting an audio level of a subsequent song unit on the basis of the offset value* (see calculation page, "4. Calibration with reference level"); *and*
>> *encoding and recording the subsequent song unit having the adjusted audio level* (see calculation page, "4. Calibration with reference level", wherein the difference is "store[d]... in the audio file"), *and*
>>> *wherein the step (a) determines the audio level average of the decoded data by excluding certain parts of the decoded data having an audio level outside of a prescribed range extending from a maximum audio reference level to a minimum audio reference level.* (see calculation page, "3. Statistical Processing")

RG teaches decoding the audio data, wherein different file formats are proposed, such

as MP3 and WAV formats (see calculation and file format pages). It is implicit that one

of these formats is decoded to determine the audio level average. RG, on the

calculation page, teaches determining the audio level average (RMS), wherein it

excludes audio levels outside a prescribed range by virtue of choosing the RMS value

5% down from the top of the sorted list. The combination of RG, Takahiro, and MP3 CD

Maker teaches the calculation between the detected audio level average and an audio

level average of a previous song (see above with respect to Takahiro), and the

combination teaches recording the adjusted MP3 files onto a optical disk (see above

with respect to MP3 CD Maker).

9.   Regarding **claim 8**, see the preceding argument with respect to claim 7. The

combination teaches a method as set forth in claim 7, wherein the previously recorded

song is a firstly recorded song (see Takahiro, abstract).

10.   Regarding **claim 10**, the further limitation of claim 7, see the preceding argument

with respect to claims 6 and 7. The combination teaches these features.

11.   Regarding **claim 11**, see the preceding argument with respect to claim 7. The

combination teaches a method as set forth in claim 7, wherein

> *the decoded entry audio data is in a first audio format type, and the subsequent decoded audio*
> *data is in a second audio format type, the first and second audio format types different from each other*
> (see introduction, wherein RG teaches a CD audio format and a subsequent MP3 audio
> format with metadata for title, artist, and CD track number).

12.   Regarding **claim 12**, see the preceding argument with respect to claim 1. The

combination teaches an apparatus with these features, wherein it teaches a method

performed on a personal computer system.

13.   Regarding **claim 16**, the further limitation of claim 12, see the preceding

argument with respect to claim 5. The combination teaches these features.

14.   Regarding **claim 17**, the further limitation of claim 16, see the preceding

argument with respect to claim 6. The combination teaches these features.

15.   Regarding **claim 18**, see the preceding argument with respect to claim 7. The

combination teaches an apparatus with these features, wherein it teaches a method

performed on a personal computer system.

16.   Regarding **claim 19**, the further limitation of claim 18, see the preceding

argument with respect to claim 8. The combination teaches these features.

17.   Regarding **claim 21**, the further limitation of claim 18, see the preceding

argument with respect to claim 6. The combination teaches these features.

18.   Regarding **claim 22**, the further limitation of claim 18, see the preceding

argument with respect to claim 11. The combination teaches these features.

Conclusion

19.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

        Keller et al., US 6,621,768 B1 (previously cited) - teaches a compact disc

recorder with normalization features (column 1, lines 24-43, column 4, lines 46-48, and

column 24, lines 15-20);

        Kincaid, US 7,072,477 B1 (previously cited) - teaches normalizing audio tracks in

a portable digital device (figures 1-5 and abstract);

        Nakano et al., (previously cited) - teaches an automatic gain control device for

adjusting input sound signals to proper values (Column 1, lines 9-17);

        Rzeszewski, (previously cited) - calculates a power level and compares it to a

threshold (abstract);

        Dougherty, (previously cited) - teaches dynamic compression and automatic gain

adjustment (Column 1, lines 16-22 and Column 10, line 64 - Column 11, line 6); and

        Mayer, (previously cited) - teaches automatic volume normalization (¶ 0007).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL R. SELLERS whose telephone number is (571)272-7528. The examiner can normally be reached on Tuesday to Friday, 8am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel R. Sellers/
Examiner, Art Unit 2614
        /CURTIS KUNTZ/
        Supervisory Patent Examiner, Art Unit 2614